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North Atlantic technical infor-
mation exchange initiatives -
1999-2000

RESPONSIBLE FISHERIES



NORTH ATLANTIC TECHNICAL
INFORMATION EXCHANGE
INITIATIVES - 1999-2000

S U M M A R Y

MARCH 2001

INTRODUCTION

Recognizing that sustainable development of fisheries can only be achieved by practising fishers, members of the fishing industry from different countries throughout the North Atlantic have taken the lead on conservation and sustainable development of fisheries.

Two North Atlantic Responsible Fishing Conferences, organized by the industry for the industry, have provided a forum for the exchange of technical information and the building of networks among practising North Atlantic skippers. Skippers have also been promoting the application of responsible fishing technologies and fishing practices at major exhibitions throughout the North Atlantic rim. This sharing of practical knowledge and expertise among practising skippers will positively benefit responsible fisheries.

FISHING 99 - SEEDS SOWN FOR INTERNATIONAL EXCHANGE

Members of Canada's fishing industry and representatives from education and research institutions teamed up with Fisheries and Oceans Canada to promote

oriented technology and responsible fishing training. Showcased were projects undertaken by Canadian fishers aboard commercial vessels to improve conservation technologies, the industry-developed Canadian Code of Conduct for Responsible Fishing Operations, and the Industrial

Training Program in Responsible Fishing.

FISHING 99 provided a rare opportunity for Canadian participants to chat with their counterparts in the European fishery about common problems and concerns, achievements in responsible fishing

technologies and fishing practices, and the grassroots development and implementation of the Canadian Code of Conduct for Responsible Fishing Operations.

responsible fishing at Europe's largest fishing exhibition, FISHING 99.

The Canadian exhibit highlighted Canadian responsible fishing initiatives to develop conservation-



Industry Workshop Organized in Conjunction with FISHING 99

An industry workshop of Canadian and United Kingdom skippers and other fishing industry stakeholders organized under the auspices of the International Energy Agency was held to coincide with FISHING 99. The agenda - to provide a forum for practising fishers from Canada and the United Kingdom to discuss energy conservation. Participants began their deliberations with a discussion of energy efficiency in fishing operations and moved on to discuss relevant, but more indirect topics including selectivity, avoidance of non-marketable by-catch, and technical measures that could be adopted in day-to-day operations.

So mutually beneficial was the exchange of technical information among practising fishers that the Scottish White Fish Producers Association Ltd. approached officials of the Department of Fisheries and Oceans with the view of co-hosting a North Atlantic conference on responsible fishing.

Recognizing that a workshop of this nature would provide an opportunity to promote responsible fishing at the international level and establish a network that would provide access to technical information from many countries, Canada agreed to help put together a conference on responsible fishing to take place in 2000.



Practising skippers and representatives from DFO and other Canadian stakeholders attend FISHING 99 in Glasgow, Scotland.

NORTH ATLANTIC RESPONSIBLE FISHING CONFERENCE - A FIRST

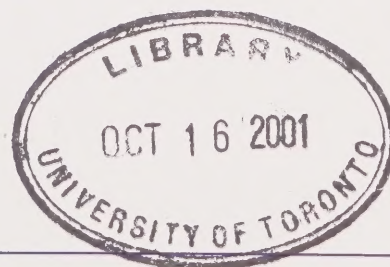
From March 21-22, 2000, Fraserburgh Scotland, located in the heart of Scotland's fishing industry, was the site of the first-ever North Atlantic Responsible Fishing Conference.

Hailed a milestone in the development of sustainable North Atlantic fisheries, the event was attended by practising fishers and other industry stakeholders (government and education) from Canada, Denmark, Eire, England, the Faroes, Greenland, Northern Ireland, Scotland, and the United States.

Conference Objectives

Four major goals were established for the conference:

- to provide an opportunity for practising skippers to discuss and exchange practical information on responsible fishing practices and methods;
- to lay the foundation for future collaborative responsible fishing ventures;
- to provide an opportunity for practising skippers to exchange information on training; and
- to formulate a communications strategy targeting industry, government, and the general public.



Key Messages Delivered During Opening Remarks

Conference organizer, George MacRae, and Co-chairs, Alex Smith and Andrew Duthie, set the stage for the event with the delivery of several key messages.

The first of these - that responsibility for the successful development of sustainable and responsible fisheries lay in the hands of those who are most knowledgeable about the fishery and could benefit from it the most - practising fishers.

Further, that the conference was an industry-led initiative designed to ensure the exchange of practical information between practising fishers that would result in responsible fisheries in the North Atlantic; and

Finally, while technical improvements were the cornerstone to improved fisheries, education and communications were also priorities.

Conference Sessions

The Conference was held in four sessions, each session centred around one particular topic:

Session 1 - Responsible Fishing Practices

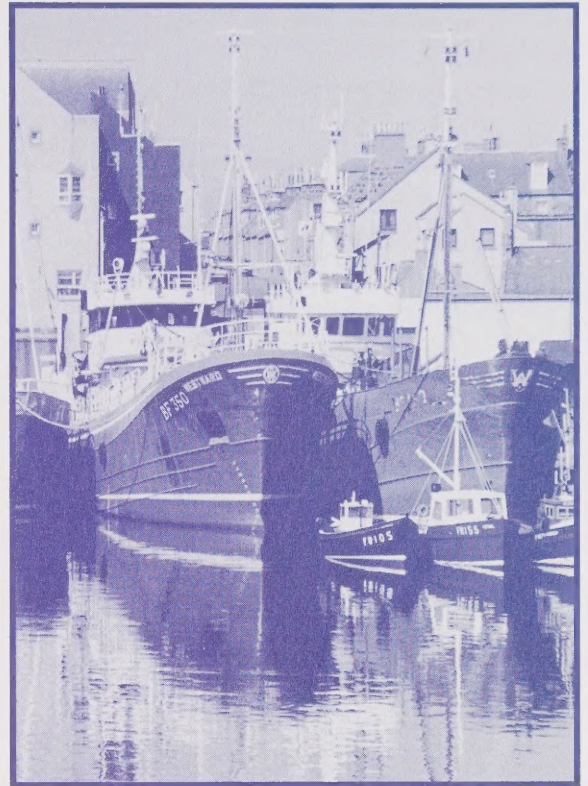
An overview presentation of responsible fishing given by John Foster, Director, Fishing Technology Unit of the Marine Institute, provided the impetus for small group discussion.

Highlights of Overview Presentation on Responsible Fishing

- A definition of responsible fishing established a common point of reference:

"Fishing conducted in an environmentally responsible manner using conservation harvesting practices with selective fishing gears for the protection of stocks in the development of economically viable fisheries."

- critical components of responsible fishing, were identified as: development of conservation-oriented technologies, delivery of training, and networking.
- other key elements need for responsible fishing: attitudinal change, minimization of fishing gear contact with the seabed, and networking with other practising skippers.



Fraserburgh, Scotland, site of the first-ever North Atlantic Conference on Responsible Fishing.



Conference organizer, George MacRae, (left) and Co-chairs, Alex Smith (center) and Andrew Duthie (right).

The presentation ended with the question:

"Where do we go from here?"

The answer -

Research would have to continue, through a collaborative approach between countries and fisheries.

Small Working Groups

Three working groups were established and maintained for all sessions:

- Shrimp\nephrops trawl fisheries;
- Groundfish\whitefish mobile gear fisheries; and
- Groundfish\whitefish mobile and fixed gear fisheries.

Working groups used their collective experience to consider recent responsible fishing activities carried out in the North Atlantic and to address outstanding issues.



In plenary sessions, conference participants were provided with an overview of responsible fishing issues and reports from small working groups.

Focus of discussion:

- a) *size and species selectivity work*
- b) *minimum mesh sizes*
- c) *differences in management systems*
- d) *pros and cons of no-take zones*
- e) *gillnets and ghostfishing*
- f) *the effectiveness of grids*
- g) *impacts to the seabed*

- a) training in the North Atlantic is diverse;
- b) introductory courses focus on the fundamentals-biological and nautical sciences and safety; and
- c) emphasis on "tickets" for vessel command and engineering.

Session # 2 - Industry Training & Communications Strategy

Jim Simpson of the Banff and Buchan College of Further Education provided participants with an overview of responsible fishing training being conducted in the North Atlantic. In summary:

Conservation-based Harvesting TechnologiesGear Developments to improve size and species selectivity:

SIZE

SELECTIVITY

Large square mesh
Horizontal panels
Square mesh panels
Rigid grids
Large diamond mesh
Semi-midwater trawling
Fish eye

SPECIES

SELECTIVITY

Large diamond mesh
Square mesh
Sort-X & Sort-V
Plastic coated netting
Rigid grates

He hailed Canadians for their efforts in developing responsible fishing training courses, stating that they were truly relevant having been designed by skippers, technical and training specialists, scientific and resource management specialists, and harvesting and industrial training specialists from the private sector.

Canadian Industrial Training Program in Responsible Fishing

Module 1

Responsible Fisheries: Historical Perspective and New Initiatives

Module 2

Fishing Gear Design and Harvesting Operations as Related to Responsible Fisheries

Module 3

Fish Biology and Behavior as Related to Responsible Fisheries

Module 4

Fishing Gear Selectivity (Flume Tank)

Module 5

Estimating and Reducing Fishing Mortalities

Module 6

Impact of Fishing on the Resource and the Environment

Module 7

Fisheries Management

Small Working Groups

Training programs familiar to the group were discussed, the need to establish an inventory of training agreed, and outstanding issues on training and communications identified.

Discussion focussed on the need for:

- a) training that addressed selective gear and conservation harvesting methods, effects of selective devices on product quality, and safe handling procedures for selective devices;

- b) a communications strategy to assist in promoting industry's efforts;

- c) a change in attitude among practising fishers and new entrants;

- d) fishers to become a part of the solution through development of vital and required skills and knowledge;

- e) training to be practical, relevant, and tailored to meet the specific needs of a particular fishery; and

- f) training to cover a broad spectrum of skills including management practices, data collection, handling of the

catch, product quality, safety, and conservation technology and practices.

Communications were identified as a necessary part of doing business. An essential message to be delivered to the general public, government, and members of the industry -

fishers were taking a proactive role in rebuilding and maintaining the resource.

Session #3 - Future Direction on Collaborative Conservation Projects

In plenary, participants identified issues for consideration by the small working groups:

- a) size and species selectivity initiatives in the shrimp/nephrops trawl fisheries;
- b) initiatives in the groundfish and whitefish fisheries with mobile gears; and
- c) initiatives in the groundfish and whitefish fisheries with fixed gears.



Participants discuss responsible fishing methods in small working groups.

Small Working Groups

Recommended for future collaborative work were projects that:

- a) assessed changes in the geometry of the trawl with the addition of grids and the effect of these changes on the codend;
- b) assessed the effect on selectivity of a change in mesh size or the installation of square mesh panels in the trawl; and
- c) identified any damage made by gears to the seabed and practical solutions to resolve disturbance to the seabed.

Participants suggested that countries bordering each other and those that fished common straddling stocks needed to work together to establish management tools that would ensure sustainability was achieved.

Session # 4 - Future Training Needs and Communications Strategy

Plenary was used to establish a list of priorities for discussion in small working groups:

- identification of future responsible fishing training needs;

- identification of specific collaborative approaches to achieve responsible fishing objectives; and
- identification of generic communication approaches for adoption by industry.

Small Working Groups

It was recommended that a formal working group be established with cross-country representation. The working group would compile a complete inventory of training available in the North Atlantic, a checklist of future training needs, and a web site where fishers could access information on all issues affecting their industry.

FISHING 2000 INTERNATIONAL EXHIBITION

From March 30 to April 2, 2000, Canadian skippers joined forces with DFO personnel and other Canadian fisheries stakeholders to participate in FISHING 2000, one of the biggest gathering of fishing professionals held worldwide.

The exhibition, which was held in Glasgow, Scotland and attended by over twenty countries, offered a unique opportunity for Canadians to spread the word about responsible fishing to an international audience.

North Atlantic Responsible Fishing Conference (1999) Recommendations

It was recommended that:

1. A fishermen's responsible fishing working group be established to deal with priority issues and to follow up on agreed actions;
2. A number of collaborative work\projects be established to deal with harvesting technology and industrial training;
3. The sharing of technical information on responsible fisheries be given priority by North Atlantic skippers. The use of electronic networking to be the main tool;
4. An industry communications strategy be established to set the record straight and to increase the general public's awareness with regard to responsible fishing; and
5. A follow-up North Atlantic Responsible Fishing Conference to be organized. The conference would be held in St. John's, Newfoundland before 2001.

The Exhibition

A booth depicting Canada's approach to responsible fishing told the story - responsible fishing is a serious matter in Canada and nobody does it better than Canadian fishers.

The display featured materials on the Canadian Code of Conduct for Responsible Fishing Operations, Canada's responsible fishing awards, and details of the gear used in at-sea experiments completed aboard commercial vessels to develop selective gears and practices. As well, a compact disk that highlighted responsible fishing training courses available in fisheries training institutions across Canada was made available to participants.



Canadian Code of Conduct for Responsible Fishing Operations poster displayed at Fishing 2000.

FISHING GEAR SYSTEMS 2000 CONFERENCE

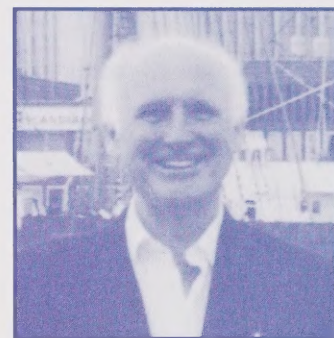
Organized by *Fishing News International*, Gear Systems 2000 provided a venue for fishers, vessel owners, researchers, technical personnel, equipment makers, manufactures, and suppliers to discuss achievements in fishing gear design and research and development worldwide.

A keynote address reviewing the state of commercial fishing set the stage for a two-day, comprehensive program dealing with topics of interest to the fishing world.

Canada Delivers Presentation on Responsible Fishing at Fishing Gear Systems 2000

Canada - committed to global development of responsible fishing - took the stage at Fishing Gear Systems 2000, delivering a comprehensive presentation on Canadian responsible fishing initiatives directed towards building sustainable fisheries.

In his presentation, Andrew Duthie, DFO stated that "Canada works on the premise that all types of fishing gears can be designed to improve conservation features - selectivity being just one". In Canada, he said, it is accepted that industry and government are partners in the conservation of the resource.



Andrew Duthie of DFO delivers presentation on responsible fishing to participants at Fishing Gear Systems 2000.

Ongoing initiatives to improve sustainability of Canadian fisheries involve:

- the evaluation and implementation of improved gear designs or new devices to enhance the conservation features of fishing gears such as size and species selectivity, and
- motivating those in the fishing industry to operate such gear in a more responsible manner.

Duthie told participants:

"the Canadian experience has demonstrated that fishers are interested and supportive of change to ensure sustainability of the resource that they depend on and that the challenge for fishery managers is to harness this interest so that the fishing industry can contribute in a cooperative manner."

The Program

Fish resources and their future
 Responsible fishing
 New developments in trawling
 Automatic trawling systems,
 Aimed fishing & gear performance and
 monitoring
 Netting materials and ropes for fishing gear
 Developments in longlining and related
 methods
 Developments in purse seining
 Traps, gillnets, and other forms of passive
 fishing
 Progress in small-scale fishing methods
 and gear
 Fish pumping technology
 Into deeper waters
 What next? A look at the future

John Foster, Director, and Carolyn Hodych of the Fishing Technology and Training Network, housed at the Marine Institute, Memorial University, organized the conference with support from Fisheries and Oceans Canada and some assistance from government and industry in Europe, the United States, and Canada.

The Marine Institute's conference and flume tank facilities were used to full advantage to ensure the exchange of technical information. Participants observed

flume tank demonstrations of various selective grids for trawls, a triplex trawl, and models and full-scale trawls constructed of new twine materials.

Conference Objectives

Several major objectives were established by a Fishermen's Responsible Fishing Steering Group:

- to present and evaluate a number of responsible fishing projects;
- to identify new collaborative North Atlantic responsible fishing initiatives and projects to be undertaken by two or more countries and related harvesting technology and industrial training needs; and
- to establish the governing structure for a North Atlantic Responsible Fishing Council and formulate an Interim Group to move this forward.

Conference Sessions

Participants were welcomed by Co-chairs, George Geddes, Scottish WhiteFish Producers Association and Jean Guy d'Entremont, Inshore Fisheries Ltd.

CANADA HOSTS SECOND NORTH ATLANTIC RESPONSIBLE FISHING CONFERENCE

From November 6 to 7, 2000, St. John's, Newfoundland, Canada was host city to the second-ever North Atlantic Responsible Fishing Conference. Building on the success achieved in Fraserburgh, Scotland, the Conference provided an opportunity for practising skippers to develop a cooperative approach to common issues and concerns.

Sixty practising commercial fishers from five North Atlantic countries attended the event as well as, technical, industry, and government representatives.



Participants attending the second North Atlantic Responsible Fishing Conference in St. John's, Newfoundland observe demonstrations of new and innovative responsible fishing gears and energy efficient trawls.

Conference activities included technical presentations, demonstrations, and small group discussions. Three plenary sessions provide participants with overview presentations of work recently completed and a fourth plenary was used to summarize deliberations,



Conference Co-chairs, George Geddes, Scottish WhiteFish Producers Association (left) and Jean Guy d'Entremont, Inshore Fisheries Ltd. (right).

make recommendations, consider the next steps, and discuss the structure of the North Atlantic Responsible Fishing Council. Each plenary was followed by discussion in small working groups chaired by a practising skipper with assistance from a technical support person and a rapporteur.

Session #1- Selectivity of Fishing Gears

Static Gear

- Experiments with Selectivity Devices in Cod Traps
- Offshore Gillnets
- Improving Selectivity of Various Gears in New England Waters
- Flatfish Gillnet Selectivity/Avoiding Cod By-Catch.

Mobile Gear

- Improvements to a Shrimp Selectivity By-Catch Grid
- Square Mesh Panels
- Large Mesh/Square Mesh in Bottom Trawls
- Single and Twin Trawls, Cut-Away Headlines
- Danish Seines - Selectivity for Flatfish
- Turbot Selectivity
- By-Catch and Discard Reduction: Effects of Composite Mesh Codends on Trawl Selectivity

Session #2 - Energy Conservation in Fishing Operations

An overview of energy practices that could provide potential alternatives to traditional methods and practices was presented.

- Fuel\Drag Comparison of Netting Materials - Shrimp Trawling in the Gulf of St. Lawrence
- Drag Comparisons: Wide-body Triplex and Traditional Trawls Fishing the Great Lakes
- Improving Fuel Efficiency by Using Modern Fibres and Netting in Trawl Construction
- Engine Fuel Efficiency



Participants of the North Atlantic Responsible Fishing Conference attend a plenary session on selectivity of gears.



St. John's, Newfoundland, site of the second North Atlantic Responsible Fishing Conference.

Session #3 - Progress on Environmental Issues Related to Fishing Operations

Impact of Fishing Gear on the Environment

- Semi-pelagic Shrimp Trawling System
- Seabed Friendly Shrimp Trawl
- Strategic Scallop Harvesting

Resource Wastage and Marine Pollution Issues

- Environmental Issues
- Ghostfishing

Quality of Fish and On-board Handling

- Care of the Catch

Three working groups considered the presentations and evaluated

their wider application, related training, and potential collaborative projects.

Session #4 - Summary of Session Reports and Discussion of Future Work

Report on Selectivity of Fishing Gears

Group discussion covered a wide range of topics. The following were highlighted:

- Duplication of research should be avoided;
- Fishers needed to be proactive in their work, ensuring scientists did not decide priority issues;

- Consensus needed to define priorities;
- Cataloguing of work needed to aid communication;
- Selective gears were only effective if all fishers in an area used them;
- Communication needed among fishers and to inform public of work being done; and
- More training needed. New Zealand program to be reviewed.

Report of Energy Conservation

- Recognized Canada as a fore-runner, having completed much work in area of energy savings;
- Dissemination of results needed to become a priority issue;
- New twine technology could be used to catch fish faster or save fuel; however, fixed quotas would ensure that this technology was used to save fuel; and
- Alternatives involved choices in fishing gear, for example, fixed gears that burned less fuel and the process of "grow out."



Participants discuss responsible fishing concerns in small working groups.

Report on Environmental Issues

- Many opinions on the effect of towing on the seabed;
- Catch rates at certain times of the day and season were not so dependent on contact with the seabed;
- Fish behaviour had to be considered when developing seabed friendly gears;
- Work could be used to advantage or to abuse the fishery; and
- Cooperation a big factor in improving environmental impact.

North Atlantic Responsible Fishing Conference (2000) Recommendations

It was recommended that:

1. An interim committee be established to focus on developing a full mandate and organizational structure for the Council.
2. Members of the Interim Committee to include:
 - George Geddes, Scotland
 - Jean Guy d'Entremont, Canada
 - Tom Best, Canada
 - Egil Skarbovik, Norway
 - Bill Amaru, United States
 - John Watt, Scotland
3. The Interim Committee undertake to draft a statement of aims of the Council, consider alternative structures, compile a network directory, and consider funding options.
4. Co-chairs, Geddes and d'Entremont, contact group members to review work to be done, taking into account ideas and projects suggested at the conference.
5. Work begin quickly because of the urgency in dealing with current groundfish issues in the North Sea.

POINTS OF CONTACT

Mr. Andrew Duthie
Chief
Responsible Fishing Operations
Fisheries Management
Fisheries and Oceans Canada
200 Kent Street, 13093
Ottawa, Ontario K1A 0E6
Tel: (613) 990 5303
Fax: (613) 990 4231
e-mail: duthiea@dfo-mpo.gc.ca

Mr. Gerald Brothers
Coordinator,
Conservation Technology
Program Planning &
Coordination Division
P.O. Box 5667
St. John's, NF Canada A1C 5X1
Tel: (709) 772 4438
Fax: (709) 772 2110
e-mail: brothersg@dfo-mpo.gc.ca

Mr. George MacRae
Secretary, Scottish Whitefish
Producers Association
40 Broad Street
Fraserburgh, Aberdeenshire
Scotland AB43 9AH
Tel: 44 01346 514 545
Fax: 44 01346 510 147
e-mail: nefjgta@gel-training.com

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Prepared by:
AQUAPROJECTS Inc.
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St. John's, NF Canada A1C 5J2

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